STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

Penobscot McCrum, LLC
Waldo County
Belfast, Maine
A-830-71-E-M

Departmental
Findings of Fact and Order
Air Emission License
Amendment #1

FINDINGS OF FACT

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Penobscot McCrum, LLC (McCrum) was issued Air Emission License A-830-71-D-R/M on February 27, 2013, permitting the operation of emission sources associated with their potato processing plant.

McCrum has requested a minor revision to their license in order to add propane as a fuel source for Boiler #1.

The equipment addressed in this license is located at 32 Pierce Street in Belfast, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type, % sulfur	Install. Date	Stack No.
Boiler #1	4.2	30 gal/hr	#2 Fuel oil, 0.5%	2012	1
		4,064 scf/hr	Natural gas	2013	
		46 gal/hr	Propane	2013	

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C. Application Classification

This amendment will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. Therefore, this modification is determined to be a minor revision and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Amendment Description

McCrum has requested that Boiler #1 have the capability to fire propane in addition to its current licensed fuel sources. Therefore, Boiler #1 has the capability to fire #2 fuel oil, natural gas and propane.

C. Boiler #1

Boiler #1 is capable of firing #2 fuel oil and natural gas, subject to the BACT limits as discussed in license A-830-71-D-R/M (dated February 27, 2013), and propane, as seen below.

1. BACT Findings

The BACT emission limits for Boiler #1 when firing propane were based on the following:

PM/PM_{10} – Emissions are regulated by 06-096 CMR 103, *Fuel Burning Equipment Particulate Emission Standard*, however, the BACT determined PM emission limit of 0.05 lb/MMBtu

when firing propane is more stringent [06-096 CMR 115, BACT]

SO_2 – 0.018 lb/1000 gal based on the average sulfur content of 0.18 gr/100 ft^3: AP-42, Table 1.5-1 (dated 7/08)

NO_X – 13 lb/1000 gal: AP-42, Table 1.5-1 (dated 7/08)

CO – 7.5 lb/1000 gal: AP-42, Table 1.5-1 (dated 7/08)

VOC – 1 lb/1000 gal: AP-42, Table 1.5-1 (dated 7/08)

Opacity – 06-096 CMR 101

The BACT emission limits for Boiler #1 when firing propane are the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1 - propane	0.21	0.21	0.01	0.60	0.35	0.05

Visible emissions from Boiler #1 while firing propane shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period.

2. 40 CFR Part 63 Subpart JJJJJJ

According to 40 CFR Part 63, Subpart JJJJJJ, natural gas is defined as:

> (2) Liquefied petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1836 (incorporated by reference see § 63.14); or
>
> (4) Propane or propane-derived synthetic natural gas. Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.
>
> [40 CFR §63.11237, *Natural Gas* (2) and (4)]

Therefore, propane is classified as natural gas and the language for 40 CFR Part 63, Subpart JJJJJJ in license A-830-71-D-R/M (dated February 27, 2013) Section II.(B.)(3.) is applicable.

D. Annual Emissions

1. Total Annual Emissions

Because emissions are dependent on the fuel being fired and McCrum has the licensed capability to fire #2 fuel oil, natural gas and propane in Boiler #1, the facility shall be restricted to the maximum annual emissions from the fuel

which gives the highest tons per year quantity for each pollutant. The tons per year limits were calculated based on a maximum operation time of 8,760 hr/yr while firing #2 fuel oil, natural gas and propane in Boiler #1. Due to these limitations, the highest emissions for Boiler #1 occur for PM, PM_{10} and SO_2 when firing #2 fuel oil, and NO_X, CO and VOC when firing propane in the boiler.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boiler #1	1.5	1.5	9.2	2.6	1.5	0.2
Oven	1.4	1.4	0.1	2.8	2.3	0.2
Total TPY	**2.9**	**2.9**	**9.3**	**5.4**	**3.8**	**0.4**

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, McCrum is below the major source threshold of 100,000 tons of CO_2e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
SO_2	50
NO_x	50
CO	250

The total facility licensed emissions are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-830-71-E-M subject to the conditions found in Air Emission License A-830-71-D-R/M, and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

All conditions and subparts of conditions not specifically addressed here shall remain in effect as licensed in A-830-71-D-R/M dated February 27, 2013 unless modified by a future licensing action.

Specific Condition (16) is amended by replacing sections (A)(1) and (B) in license A-830-71-D-R/M, and adding (G) and (H) to read as follows:

(16) **Boiler #1**

A. Fuel

1. Boiler #1 is licensed to fire #2 fuel oil, natural gas and propane. [06-096 CMR 115, BACT]

B. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1 - #2 fuel oil	PM	0.08	06-096 CMR 115, BACT
Boiler #1 – natural gas	PM	0.05	06-096 CMR 115, BACT
Boiler #1 - propane	PM	0.05	06-096 CMR 115, BACT

G. Emissions from the boiler when firing propane shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.21	0.21	0.01	0.60	0.35	0.05

H. Visible emissions from Boiler #1 when firing propane shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 20 DAY OF May , 2013.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-830-71-D-R/M.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 4/4/2013
Date of application acceptance: 4/5/2013

Date filed with the Board of Environmental Protection:

This Order prepared by Allison M. Hazard, Bureau of Air Quality.

Filed
MAY 20 2013
State of Maine
Board of Environmental Protection